

Changes and Challenges of National Rule of Law in the Era of Big Data

Renlong Wan*

Nanchang Institute of Science and Technology, Jiangxi 330108, China

1547887613@qq.com

**corresponding author*

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Abstract: The era of Big data has come quietly, Big data is constantly affecting all aspects of social life. At the same time, on the one hand, with the rapid development of social economy, the complexity of social relations and contradictions, the rapid increase in the number of cases and the overweight of judicial personnel; on the other hand, with the deepening of the construction of a country ruled by law, the legal quality of the general public has been greatly improved, and they have more expectations for Big datarness and justice. In this paper, through the elaboration of the relevant concepts, and the question Big datare survey on the application of Big data in the rule of law, the application support rate is 60%, 21% of the people are worried about the application of Big data.

1. Introduction

At present, China is in the risk period of social transformation, the decisive period of poverty alleviation and the critical period of judicial system reform. With the superposition of various contradictions and risks, the pressure and situation of resolving social disputes are unprecedented severe, and the people's expectations and requirements for judicial justice are becoming increasingly urgent. Building a "smart court", applying modern science and technology to the work of the people's court, combining the reform of the judicial system with modern science and technology, and combining Big data technology with judicial business, to realize "more information and less suffering for the masses", is the inevitable choice to alleviate the contradiction between more cases and less people, and it is also the result of the law of economic and social development [1].

Big data is a branch of computer science. The research scope of Big data includes autopilot, robot, speech recognition and expert system. At present, Big data has attracted people's attention and research, although the concept of Big data has been put forward at the academic forum held by

Dartmouth University in 1956. In fact, Big data related products have been applied in judicial work for a long time, and the most obvious ones are laws and regulations database and case retrieval system. These products with some characteristics of Big data are good "little assistants" for judges in judicial practice, which improves the efficiency of judicial work and saves judicial resources. At present, China's judicial system is facing many cases, few people, judicial corruption and other difficulties, and the rise of Big data helps to solve this dilemma. China is promoting the construction of "smart court". As a new thing, the introduction of Big data can help judicial personnel to hear cases to a certain extent, but it also brings some new problems. Big data is based on data, once the vast amount of judicial data is violated, it will inevitably lead to huge losses; Big data instead of judges to hear cases, the judge's discretion is weakened, and the judicial power that originally belongs to the court is shared to other individuals or organizations. At the same time, the application of Big data in the judicial field should take into account not only the existing technical level, but also the acceptance of judicial personnel and the general public. In the face of these difficulties, how to deal with Big data is a problem worth pondering [2].

The innovation experiment of local government is the innovation and experiment behavior of local government in the reform. At present, the innovation experiment of local government is in full swing in China, which is a sharp tool to break the bottleneck of innovation and solve the problem of innovation. However, as to what is local government innovation experiment, it is still a concept that has not yet formed a final conclusion. It is only an unofficial language and academic generalization. Combined with the above point of view, the author tries to define the local government innovation experiment as follows: the local government innovation experiment refers to that the public authority at or below the provincial level takes the way of innovation experiment in the pilot areas based on the ideas of policy makers, actively explores to adapt to environmental changes and new challenges, and takes the lead in creating new ideas, new systems, new technologies and new methods in management, service and mechanism. It is a kind of creative reform behavior to achieve the ultimate goal of promoting economic development and social progress in the pilot areas. In order to avoid ambiguity, the author emphasizes that the local government innovation experiment is not a legal term in the strict sense. Its essence is that the local government practices the advanced ruling idea based on the practical problems, which has the nature of trial and error. It can be simply understood as the "trial first" behavior of the local government. In essence, it still belongs to the category of local government innovation, including two aspects: Innovation: the first is the local government's own reform and innovation; the second is the local government's management innovation, public goods and public services to provide the way and content of innovation.

2. Related Definitions

2.1. Definition of Big Data

As for the definition of Big data, there are different definitions in academic circles, but it is generally believed that it is based on the theory and technology of computer research. Strong Big data through in-depth learning ability, there is a certain sense of autonomy, there is a certain degree of independent control and judgment ability, simulation and human similar behavior. Super Big data refers to the Big data that can surpass the best human intelligence in almost all fields. The emergence of Big data can be seen from two aspects. On the one hand, from its concept, it came into being in the Dartmouth conference in 1956 and was proposed by John McCarthy. This has become an important symbol of Big data. On the other hand, it can be seen from the connection with the law. After the concept of Big data was formally put forward, it has attracted the attention of

some jurists [3].

2.2. Administrative Law Enforcement

In real life, we will see a lot of law enforcement phenomena, including the law enforcement of urban management in the market, and the law enforcement of traffic police commanding traffic. There are also administrative law enforcement that we can't see in our dBig dataly life, but it is also reflected in the law enforcement system. For example, the act of implementing the constitution may be contBig dataned in a specific act, which is not so obvious. From the perspective of the classification of administrative acts, it is generally believed that administrative law enforcement refers to specific administrative acts. In a broad sense, it includes abstract and concrete administrative acts. " Song Dahan agrees with this statement. The third point of view is narrower than the above two, which mBig datanly focuses on the administrative acts of sanction or obligation. For example, administrative punishment and administrative coercion. It emphasizes the purposiveness, the behavior that influences the rights or obligations of the administrative counterpart in order to manage the society effectively. The fifth view is that its concept is not a layer of invariable, depending on the situation. This is a dynamic view, and the former views are distinguished according to one standard. In this classification, we use a way similar to divergent thinking to distinguish. It covers a wide range, including its content, way and nature. When we distinguish laws, we may produce different departmental laws according to their nature, and the administrative law enforcement is the same. It is administrative. In fact, this is its first standard. And the law often involves a lot of content, including its generation and implementation, so in this perspective, it includes legislation and law enforcement, so law enforcement is only one of its categories. The same logic applies to law enforcement. It can be distinguished according to different standards [4-6].

Administrative law enforcement plays an indispensable role in our society. The mBig datantenace of social order can not be without the existence of administrative law enforcement. If there is no administrative law enforcement in our society, the society may lose the existing order and produce corresponding chaos. For the traditional administrative law enforcement, we may see the law enforcement of the market, traffic law enforcement, social security management and other aspects. In recent years, we have a deeper understanding of the relevant departments to check the behavior of drunk driving. Due to the strict investigation of the relevant administrative departments, it sounds an alarm to people and creates a good social order. But in this process, if every step requires manual operation for law enforcement, administrative law enforcement personnel will have a huge law enforcement pressure. In reality, the emergence of relevant law enforcement instruments, to a certBig datan extent, reduces the pressure of administrative law enforcement personnel. With the further development of society, a new generation of intelligent law enforcement has come. Intelligent UAV can realize multi-directional administrative law enforcement to a certBig datan extent, and liberate the hands and brBig datan of administrative law enforcement personnel to a certBig datan extent. But then it may encourage the inertia of administrative law enforcement personnel, and even replace the jobs of relevant personnel in the future. To a certBig datan extent, this has aroused social thinking and some worries. And then there are some problems to be solved in the effectiveness of administrative law enforcement. Understanding the traditional concept of administrative law enforcement can help us to understand the administrative law enforcement and related problems in the intelligent era, and put forward legal countermeasures [7-9].

2.3. Institutional Basis of Local Government Innovation Experiment in the New Era

The 1982 Constitution clearly stipulates that according to the division of functions and powers between the central and local governments, the principle of giving full play to the local initiative and enthusiasm under the unified leadership of the central government should be followed. At the same time, by changing the one-level legislative system into a two-level legislative system, the provincial people's Congress and its Standing Committee can formulate local policies and regulations in the light of local conditions on the premise of not conflicting with the Constitution and laws.

Since the reform and opening up, one of the mBig datan directions of China's political reform is decentralization. The central government decentralizes power to local governments, and the central government decentralizes power to enterprises and society. Several changes in the power structure of the central government and the local government make it possible for the local government to control the local economic resources and local finance, and to make independent decisions on economic development, thus laying an institutional foundation for the local government to carry out innovation experiments. The official evaluation and promotion system with economic development indicators as the core content provides a strong driving force for local governments to pursue economic development, and also stimulates the enthusiasm of local governments to carry out local innovation experiments [10].

2.4. Related Formulas

Weighted average algorithm:

$$\bar{x} = \frac{\sum xf}{\sum f} \quad (1)$$

Average error algorithm:

Repeated sampling:

$$\mu_x = \frac{\sigma}{\sqrt{n}} \quad (2)$$

$$\mu_\gamma = \sqrt{\frac{p(1-p)}{n}} \quad (3)$$

Non repeated sampling:

$$\mu_x = \sqrt{\frac{\sigma^2}{n} \left(1 - \frac{n}{N}\right)} \quad (4)$$

3. Application of Rule of Law Based on Big data

3.1. Enlightenment from the Application of Big data Abroad

Although the judicial application of Big data in foreign countries started earlier and has a certBig datan scale, China's leading advantage in the development of Big data and the reform "dividend" released by the judicial system reform are promoting the construction of China's "smart court"

steadily, attracting the attention of the judicial system and political field all over the world, and is known as "contributing China's wisdom to the world's rule of law civilization China plan ". This advantage of catching up from behind and striking behind brings us some enlightenment on the construction of intelligent court and the judicial application of Big data.

3.2. Innovation at the Grassroots Level and Top-level Design

The United States, the United Kingdom, Canada and other developed countries have good legal basis, matching technical conditions and personnel quality. However, the R & D and application of judicial Big data is "multifarious". In fact, it reflects the "fighting alone" within the court system. Without effective top-level design and system promotion, it is difficult to form replicable and promotional results And experience. People in China: the application of intelligent justice should be unified under the arrangement and deployment of the Supreme People's court, and embodied in the system of intelligent court. That is to say, the application of Big data justice in China focuses on the system of "intelligent court", which ensures that the whole business of the national court system is handled in accordance with the law, the whole process is open, and all-round intelligent services are in step, serving the masses and serving the people The concept of judicial management, service for trial execution and service for clean administration is unified, and the pioneering spirit of courts at all levels in specific practice can be brought into play to provide fresh experience for top-level design at the national level, so as to achieve leadership, system, step-by-step and implementation.

4. Analysis of Relevant Research Data

4.1. Research on Big data Legal Database

Table 1. Number of open documents in the adjudicative documents network

Year of upload	Quantity
2013	10942
2014	5580434
2015	2960287
2016	11489229

It is necessary to realize the integrity of database resources in the field of law, strengthen the data interconnection of justice, and make the data of Big data more objective and comprehensive. Therefore, local courts should continue to open their own database of judgment documents, and provide comprehensive and real cases of judgment documents needed by Big data. As far as data disclosure is concerned, it is necessary to weigh whether the judicial data of court record, police investigation, procuratorate prosecution and other links need to be disclosed. If this data is put into the research of Big data, it is necessary to focus on the prevention and control of privacy. The relevant data is only open to specific people, and the research on pre-trial procedures and decision-making discussion should also include Big data technology Within. In addition, data interconnection should be built on the premise of secure interconnection to prevent the leakage of judicial information, form a secure network within the judicial field, and set up corresponding regulatory departments, which can not only ensure the effective development and interconnection of

data, but also prevent information from being used by internal bad forces, and do a good job in data security prevention and control.

4.2. Application of Big data in the Rule of Law

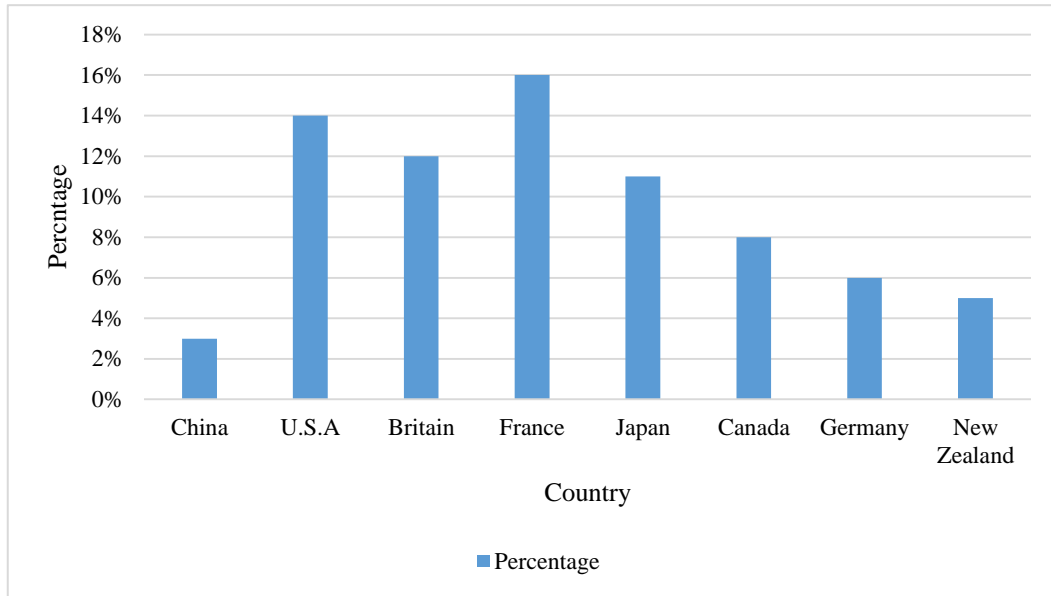


Figure 1. Proportion of countries applying Big data

4.3. Big data Application Support Rate

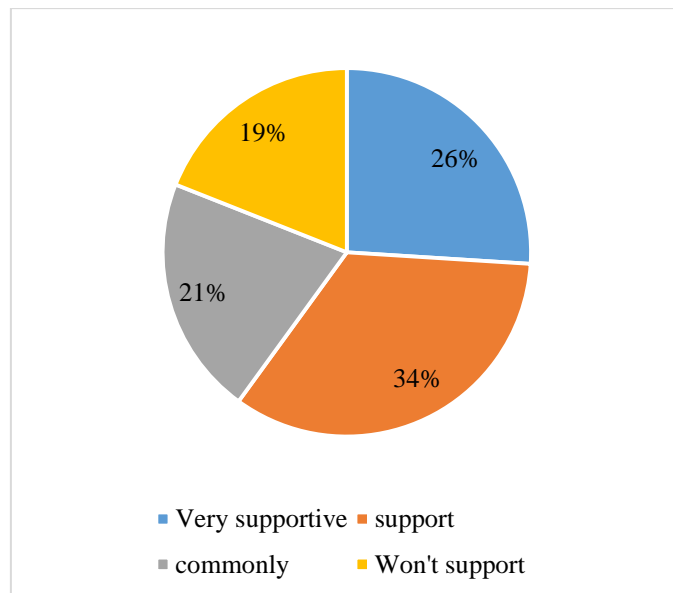


Figure 2. Support for innovative applications of Big data

As shown in Figure 2, the application support rate of Big data in the rule of law innovation is 60%, and 21% of the public are worried about the application of Big data.

4.4. Research on the Path of Innovating the Rule of Law

In a modern democratic country ruled by law, all state activities should be legitimate. In the field of administration, this legitimacy is embodied in the principle of "administration according to law". The principle of legal priority is one of the contents of the principle of administration according to law. In a negative sense, it is also known as the principle of administration according to law. This means that the exercise of all administrative powers should be subject to the current law, and should not be dealt with in violation of the law. As one of the basic principles of a country ruled by law, the principle of law priority is also recognized in the fifth article of the current constitution and the legislative law of China. Therefore, the principle of legal priority can undoubtedly be applied to all administrative departments and all administrative fields in China, as well as to the innovative experimental activities carried out by local governments.

5. Conclusion

Local government innovation experiment is not only a complex process, but also an arduous task. In the process of local government innovation experiment, it is often accompanied by the confrontation and collision between the old and new systems, working methods, management concepts, especially the conflict between local government innovation experiment and the rule of law. The author believes that under the background of ruling the country by law, the resolution of these conflicts must rely on the rule of law to "guide, provide norms, clarify power and solve contradictions". In addition, some good practices and typical experiences formed by local government innovation experiments also need to rely on the rule of law to solidify and promote.

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Data Availability

Data sharing is not applicable to this article as no new data were created or analysed in this study.

Conflict of Interest

The author states that this article has no conflict of interest.

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